

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-3. (Cancelled)

4. (Currently Amended) A method for detecting a hybrid nucleic acid by use of a cationic dye compound, comprising:

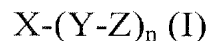
providing a cationic dye compound comprising a cation group and a chromophore coupled to said cation group, said chromophore having a heteropolycyclic structure containing a nitrogen atom;

bringing a nucleic acid probe and a sample containing a target nucleic acid into contact with each other under hybridization conditions to form a hybrid nucleic acid composed of said nucleic acid probe and said target nucleic acid, wherein said nucleic acid probe is a DNA fragment or chemically synthesized DNA comprising a nucleic acid sequence complementary to the target nucleic acid;

binding said cationic dye compound onto said hybrid nucleic acid by adding the cationic dye compound before, during or after said hybridization; and

measuring circular dichroism of said cationic dye compound bound onto said hybrid nucleic acid;

wherein said cationic dye compound is represented by the following formula (I):



wherein n denotes 1 to 12, X represents a chromophore having at least four pyrrole rings, Y represents a connecting group or a direct bond between X and Z, and Z represents a cationic functional group, or a functional group whose property is convertible to a cationic property.

5. (Cancelled)

6. (Original) The method according to claim 4, wherein said chromophore is selected from the group consisting of porphyrin, porphyrin derivatives, phthalocyanine, and phthalocyanine derivatives.

7. (Original) The method according to claim 4, further comprising: immobilizing an analyte having said target nucleic acid or said nucleic acid probe onto a solid phase carrier to bring said analyte and said nucleic acid probe into contact with each other under hybridization conditions.

8. (Previously Presented) An apparatus for detecting a hybrid nucleic acid by use of a cationic dye compound comprising:

means for bringing a nucleic acid probe and a sample containing a target nucleic acid into contact with each other under hybridization conditions to form a hybrid nucleic acid composed of said nucleic acid probe and said target nucleic acid;

means for binding said cationic dye compound onto said hybrid nucleic acid by adding the cationic dye compound before, during or after said hybridization, wherein said cationic dye compound comprises a cation group and a chromophore coupled to said cation group, said chromophore having a heteropolycyclic structure containing a nitrogen atom; and

means for measuring circular dichroism or said cationic dye compound bound onto said hybrid nucleic acid.